RED HAT VIRTUALIZATION DELIVERS HIGH PERFORMANCE, FLEXIBILITY, AND COST SAVINGS TO U21GLOBAL

FAST FACTS	
Industry	Education
Geography	Singapore
Opportunity	To implement a cutting-edge, reliable, and affordable solution that scales with growing business needs, and to leverage virtualization technology to reduce hardware footprint and increase operational flexibility
Solution	Software: Red Hat® Enterprise Linux® 5.2 with integrated virtualization, Red Hat Network
	Hardware: HP® Proliant G5 servers
	Services: Red Hat Consulting
Benefits	• Approximately $40,000 cost savings
	• High-performance, flexible IT infrastructure delivered through the integrated virtualization technology in Red Hat Enterprise Linux
	• Efficient allocation and management of computing resources through features such as dynamic addition/removal of server memory and processors
	• Simplified systems administration

BACKGROUND

Established in 2001, U21Global is the world's premier online Graduate School that offers globally recognised graduate programmes. The graduate school is backed by an international network of leading research-intensive universities in 11 countries and has successfully enrolled students from 60 countries around the world including those from Asia, Australia, Africa, Europe and the Americas.

U21Global, understands the value and potential of harnessing advanced technology and the Internet to provide an invaluable learning experience for its enrollment of over 5,000 students worldwide.

To deliver high-quality, dynamic, and interactive academic content, U21Global relies on a powerful IT infrastructure to provide the highest levels of availability for its online programmes.

U21Global's datacenter is located at its global head-quarters in Singapore. It provides IT services to its students, faculty and support staff around the world, while simultaneously supporting the business-critical function of development and staging of courseware. Courseware developers, faculty members of affiliated universities, and quality assurance professionals access the datacenter resources to develop content and carry out user-acceptance tests and certification.

"We trust Red Hat virtualization because it delivers immediate, real benefits to U21Global. With Red Hat Enterprise Linux we met our goals for A HIGH-PERFORMANCE VIRTUALIZATION IMPLEMENTATION that is stable, reliable, scalable, and secure."

–Caven Yip, Systems Engineer, U21Global

OPPORTUNITY

In 2008, rapid business growth put pressure on U21Global to add three new servers to keep pace with user demands on its development and staging platform. At the same time, 10 existing servers were also due for maintenance renewals and system upgrades. The cost of new hardware and renewals was substantial, causing U21Global to look for an alternative solution that could deliver a robust enterprise platform while also offering cost savings, reliability, ease of management, and scalability.

SOLUTION

U21Global was familiar with the reliability of Red Hat Enterprise Linux, having used Red Hat solutions in various parts of its IT architecture for a number of years. When Red Hat delivered its integrated virtualization capabilities in Red Hat Enterprise Linux 5, U21Global decided to assess how this and other virtualization solutions could help it address its cost, scalability, and system management challenges.

U21Global evaluated three virtualization solutions. It had never utilized virtualization capabilities on its systems before, but knew that it needed the promise of quality support from the vendor it selected. U21Global also wanted to work closely with the technology provider to learn best practices and gain help during implementation.

"We selected Red Hat Enterprise Linux with virtualization for its COST-EFFECTIVENESS, ENTERPRISE SUPPORT, EASE-OF-MANAGEMENT, AND FLEXIBILITY."

– Caven Yip, Systems Engineer, U21Global

U21Global's virtualization solution was installed with the help of Red Hat Consulting. U21Global had the internal expertise to install the solution, but it looked to acquire best practices from the experienced team of Red Hat experts. With Red Hat Consulting, U21Global was able to implement its Red Hat Enterprise Linux virtualization solution more quickly than had been anticipated at the beginning of the project.

Using Red Hat virtualization technology, U21Global has converted four physical servers to virtual servers (guests). It has also implemented a virtual server dedicated to new development work. By the end of 2009, U21Global aims to have a simple, yet powerful, infrastructure with high-performance servers and up to 12 virtual servers.

U21Global has also invested in Red Hat Network, an easy-to-use systems management platform, to help the company keep its open source environment up-to-date and to help efficiently manage its physical and virtual servers. The system enables U21Global's IT team to view the status of its servers at all times and allows the company to download important patches, configuration changes, and updates as they become available through Red Hat's subscription service.

BENEFITS

Virtualization is a powerful enabling technology. It has allowed U21Global to create a highly flexible IT infrastructure where server memory and processor resources can be quickly re-deployed for any new server setup.

"While a typical server can cater for up to 10 concurrent users, with virtual servers, it is possible to re-allocate memory and compute resources on-the-fly to allow more users to log on to a server. The IT team is now able to provision servers and IT services in a timely manner," said Yip.

Through Red Hat Enterprise Linux virtualization technology, U21Global has saved approximately $40,000. Because Red Hat's virtualization capabilities are delivered

integrated with its operating system at no additional cost, the company did not have to turn to a third-party vendor to purchase a separate technology solution and was able to eliminate the added expenditure for the virtualization technology.

"Virtualization presented a great cost-saving solution. By migrating a number of our physical servers to virtual servers, we were able to reduce the number of servers in the datacenter, increase utilization rates and reduce power consumption," said Yip. "If we had not implemented virtualization, we would have spent $24,000 on three new servers and continued to incur the cost of annual maintenance for the original 10 servers."

Additionally, due to the integrated virtualization, U21Global was assured that its deployment would be secure, stable, and manageable through collaboration with one reliable vendor. In addition to enjoying the flexibility of a virtualized environment, Red Hat Enterprise Linux 5 also provided U21Global with dramatic improvements in performance.

After implementing Red Hat virtualization, U21Global has achieved a flexible IT infrastructure that allows for shared pools of compute and memory resources. For the IT team, this translates to the ability to rapidly provision new servers for staging and development.

With its previous deployment, the IT staff needed to back-up an old server before they could transition its applications to a new physical server. This was a tedious process requiring approximately two days. Virtual servers eliminate that entire process. And before implementing virtualization, U21Global's IT team had to connect remotely to the server or access the console directly in order to manage the system.

"Now, I only need to access the virtualization manager from any Red Hat Enterprise Linux 5 system in order to access all the virtual servers," said Yip. "It used to take days to provision new servers. Now, we can provide servers in just a few hours."

"We have been using open source technologies since 2002 and have tried many different Linux distributions," said Yip. "Today, we use Red Hat Enterprise Linux because of the enhanced security, the platform's robustness, and the flexibility of the operating system. We also enjoy very good Red Hat support."

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